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COMMUNICABLE DISEASE CENTER

Morbidity and Mortality

Vol. 14, No. 7

WEEKLY REPORT

Week Ending February 20, 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE

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EPIDEMIOLOGICAL NOTES

INFLUENZA

Influenza continues to occur in the Northeastern part of the country and in other scattered States. Much of the involvement has previously been described in MMWR, Vol 14, Nos. 3-6 inclusive. For a summary of current information the reader is referred to the accompanying chart. Additional States reporting influenza or influenza-like illness during the past week are Texas, Florida, Ohio, Wisconsin, Arkansas, Tennessee, and North Carolina. The reports from Texas, Florida, and Wisconsin describe focal outbreaks of serologically confirmed Type A influenza. Localized outbreaks of influenza-like illness were reported from counties both in Tennessee and North Carolina. The occurrence of influenza-like illness in Arkansas would appear to be State-wide. Laboratory investigation of these latter outbreaks is in progress.

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Table 1. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

(Cumulative totals include revised and delayed reports through previous weeks)

Disease	7th Week Ended			Cumulative, First 7 Weeks		
	February 20, 1965	February 15, 1964	Median 1960 - 1964	1965	1964	Median 1960 - 1964
Aseptic meningitis	21	19	19	190	177	164
Brucellosis	4	5	8	28	45	45
Diphtheria	4	2	10	22	30	95
Encephalitis, primary infectious	25	29	---	195	204	---
Encephalitis, post-infectious	11	8	---	88	46	---
Hepatitis, infectious including serum hepatitis	796	935	1,231	5,580	6,439	7,837
Measles	9,235	9,350	11,139	51,859	47,713	62,180
Meningococcal infections	110	49	49	499	377	377
Poliomyelitis, Total	-	3	3	2	9	55
Paralytic	-	1	3	2	5	34
Nonparalytic	-	2	---	-	4	---
Unspecified	-	-	---	-	-	---
Streptococcal Sore Throat and Scarlet fever	11,972	10,323	9,893	74,663	66,469	64,003
Tetanus	4	7	---	25	34	---
Tularemia	1	8	---	36	48	---
Typhoid fever	6	9	8	45	50	50
Rabies in Animals	85	65	65	642	472	445

Table 2. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	1	Rabies in Man:	-
Botulism:	-	Smallpox:	-
Leptospirosis: Hawaii - 2	5	Trichinosis: N.Y. Upstate - 1	20
Malaria: N.Y. Upstate - 1, Wash - 1	5	Typhus-	
Plague:	-	Murine:	2
Psittacosis: Utah - 1	3	Rky Mt. Spotted:	6

EPIDEMIOLOGICAL NOTES – INFLUENZA *(Continued)*

Current pneumonia and influenza mortality reported to the CDC by 122 U.S. cities (p.63) persists in showing a slight elevation above the "epidemic threshold." While the pneumonia-influenza mortality in the New England States shows a downward trend this week, that in the Middle Atlantic Division of States continues to rise.

The following chart is a summary of influenza and influenza-like activity during the 1964-1965 season. It has been prepared from reports submitted to the Influenza Surveillance Unit of the CDC by the State Health Departments. An attempt has been made to separate the involvement into "widespread" or "scattered, sporadic" outbreaks in so far as data are available. This differentiation is at times necessarily a subjective one, but is intended merely to suggest a level of occurrence in the areas where illness is being recognized.

UNITED STATES INFLUENZA SUMMARY – 1964-65

CONFIRMED OUTBREAKS

	State or Territory	Geo. Distribution		First Recognized	Lab. Confirmation	
		Widespread	Scattered, Sporadic		Isolation	Serology
1964	Puerto Rico	X		Aug.	A_2	A
	Hawaii	X		Sept.	B	B
	Oregon		X	Oct.	–	A
	Maine		X	"	–	B
1965	Conn.	X		Dec.	A_2	A
	N. Jersey	X		Jan.	A_2	A
	Mass.	X		"	–	A
	Pa.		X	"	A_2	A
	Missouri		X	"	A_2	A
	Maine		X	"	–	A
	New York		X	"	A_2	A
	Vermont		X	"	–	A
	Iowa		X	"	–	A
	Michigan		X	"	A_2	–
	Alabama		X	Feb.	–	A
	Kansas		X	"	A_2	A
	Texas		X	"	–	A
	Florida		X	"	–	A
	Ohio		X	"	–	A
	Wisconsin		X	"	–	A
	INFLUENZA-LIKE ILLNESSES					
1965	N.H.		X	Jan.	–	–
	Miss.		X	"	–	–
	Arkansas	X		"	–	–
	Tenn.		X	Feb.	–	–
	N. Carolina		X	"	–	–

INTERNATIONAL NOTES – INFLUENZA

EUROPE

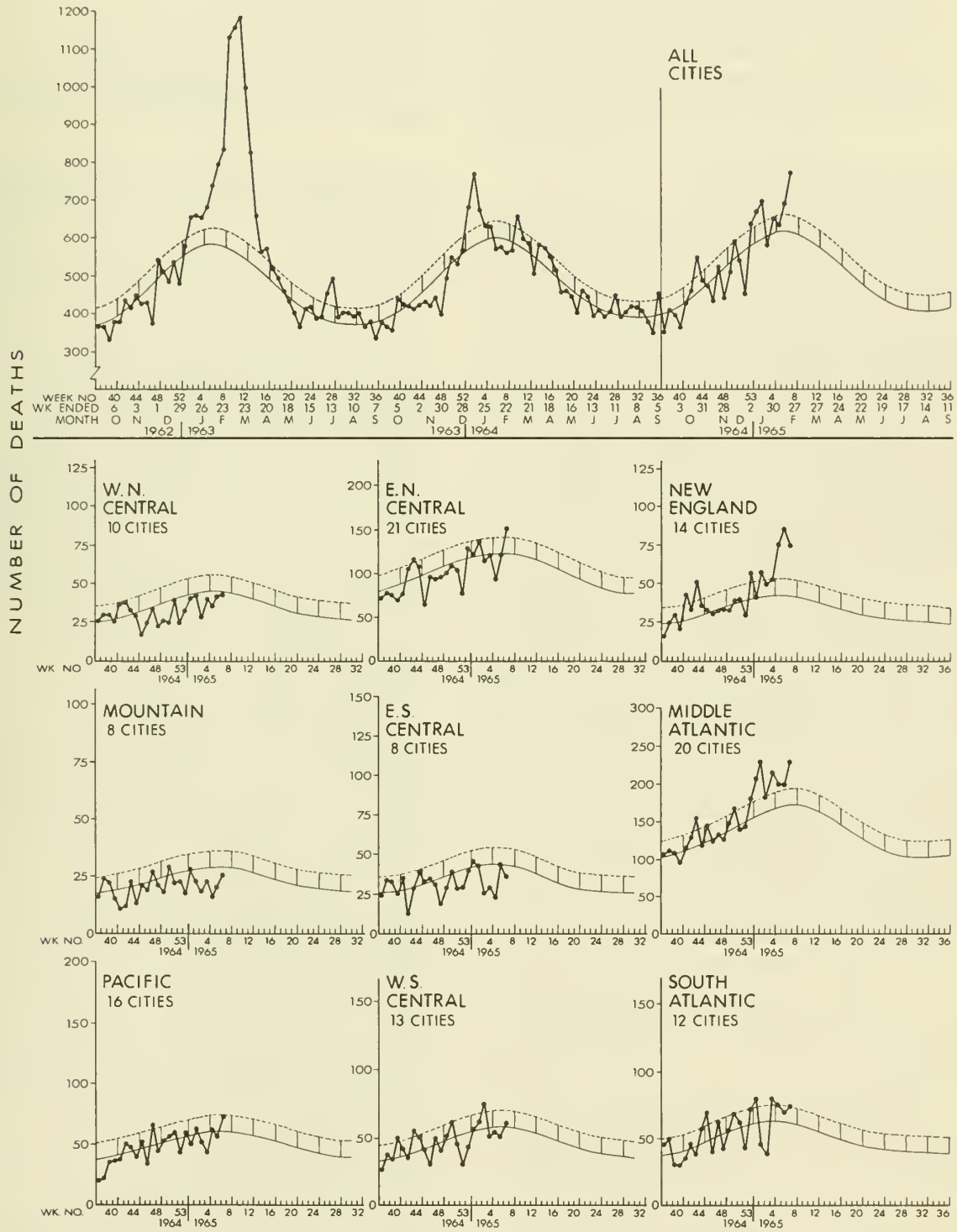
Eastern Germany

(Information on February 3, 1965). – Further telephone reports have been received from the WHO Regional Virus Reference Center in Prague. The outbreaks caused by influenza virus A_2 appear to have died down in the Baltic area of Eastern Germany.

U.S.S.R.

(Information on February 3, 1965). – Further telephone reports have been received from the WHO Virus

PNEUMONIA-INFLUENZA DEATHS IN 122 UNITED STATES CITIES



RECOMMENDATIONS OF THE PUBLIC HEALTH SERVICE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICE

I. THE ADVISORY COMMITTEE.

II. MEASLES VACCINES – STATUS AND RECOMMENDATIONS FOR USE.
ADDENDUM PERTAINING TO THE FURTHER ATTENUATED MEASLES VIRUS VACCINE.

III. STATUS OF GAMMA GLOBULIN PROPHYLAXIS FOR PREGNANT WOMEN EXPOSED TO RUBELLA.

IV. SIMULTANEOUS ADMINISTRATION OF SMALLPOX AND YELLOW FEVER VACCINES.

I. THE ADVISORY COMMITTEE

The Public Health Service Advisory Committee on Immunization Practice was appointed by the Surgeon General in 1964. Its responsibilities have been outlined as follows:

"The Advisory Committee on Immunization Practice is charged with the responsibility of advising the Surgeon General regarding the most effective application in public health practice of specific preventive agents which may be applied in communicable disease control. Among other factors, the Committee shall consider desirable immunization schedules, dosages and routes of administration and indications and contraindications for the use of these agents. The Committee shall also provide advice as to various population groups for whom the agents should be recommended and shall advise regarding the relative merits and methods for conducting community immunization programs. It will provide advice and guidance regarding present and proposed requirements for immunization in international travel. The Committee shall also advise appropriately regarding needed programs in research."

At meetings in May and November of 1964 and in July 1964 (with members of the Special Oral Poliomyelitis Vaccine Advisory Committee), a number of problems pertaining to immunization practice were considered and recommendations formulated. Recommendations pertaining to influenza vaccine use for 1964-65 have been distributed; conclusions and recommendations regarding the live attenuated oral polio vaccines were published in the *Journal of the American Medical Association* on October 5, 1964. Recommendations pertaining to measles vaccines, the use of gamma globulin as a prophylactic for pregnant women exposed to rubella, and the question of simultaneous ad-administration of smallpox and yellow fever vaccines are presented below.

Members of the Committee are:
Dr. James Goddard, Chairman; Dr. David T. Karzon; Dr. Donald A. Henderson, Secretary; Dr. Arthur Lesser, Dr. Ernest A. Ager, Dr. Theodore A. Montgomery, Dr. Gordon C. Brown; Dr. Roderick Murrary; Dr. Geoffrey Edsall, Dr. Paul F. Wehrle.

Dr. F. R. Freckleton, Chief, Immunization Activities, CDC,
Dr. U. P. Kokko, Chief, Laboratory Branch, CDC,
Dr. Benjamin Blood, Office of International Health, USPHS, and
Dr. Joe L. Stockard, Division of Foreign Quarantine, USPHS, serve as liaison participants.

The Committee invites the submission of problems pertaining to the public health application of the various preventive agents employed in communicable disease control.

II. MEASLES VACCINES – STATUS AND RECOMMENDATIONS FOR USE

A. Live Attenuated Measles Virus Vaccine (Edmonston Strain)

Developed in the laboratory of Dr. John Enders, this vaccine, prepared in chick embryo tissue cultures, was first tested in 1958 and since has been given to several million persons in the United States, either alone or in combination with gamma globulin. The vaccine produces in the recipient a mild or inapparent, non-communicable infection which induces active immunity. Although in the majority the symptoms are minimal, approximately 30-40 percent experience fever of 103°F (rectal) or greater, beginning about the sixth day and lasting two to five days. However, even those with high fever may experience relatively little disability and minimal toxicity. In 30 to 60 percent a modified measles rash is seen which begins with or after the subsidence of fever. A few develop mild cough, coryza and Koplik spots.

An antibody response equivalent to that seen in regular measles develops in over 95 percent of susceptible children. Measured as late as four years later antibody levels induced by the vaccine have demonstrated a stability equivalent to that following the natural disease. Protection upon exposure to measles has been noted for at least four years after vaccination.

If standardized Measles Immune Globulin is given in the recommended dose at the same time as the live attenuated vaccine, but at a different site and with a separate syringe, clinical reactions to the vaccine are sharply reduced. About 15 percent demonstrate fever over 103°F (rectal); the duration of fever is shortened and the incidence of rash is markedly reduced. Although the frequency of serological conversion is the same as that following live attenuated vaccine alone, the level of induced antibody attained appears to be slightly decreased. Antibody titers have been shown to persist for at least three years and protection against the naturally occurring disease has been noted for at least two years.

To date, there have been no reports of encephalitis or other serious reactions following administration of the live attenuated vaccine to normal children. A few instances of convulsions, apparently of the febrile type and without known sequelae, have been recorded.

B. Inoctivated Meosles Virus Voccine

The inactivated vnccine is composed of attenuated Edmonston strain measles virus propagated on monkey kidney or chick embryo tissue culture, and subsequently inactivnted, concentrated nnd precipitnted. The vaccine has been customarily administered, in field trials, in a three dose schedule at monthly intervals. Reactions to the vnccine nre no more frequent than those seen after administration of alum precipitated products, such as diphtheria and tetanus toxoids.

Serological conversion after three monthly doses of inactivated vaccine is induced in 90 percent or more of susceptible children. Antibody titers, however, are distinctly lower than those following the live vaccine and in most cases decline to undetectable levels over the following year. These children, although without detectable antibody, demonstrate a booster response when given n fourth dose of vaccine.

Under the conditions of natural challenge, the vaccine has demonstrated an efficacy of between 80 and 95 percent during the immediate six months following administration. A year after administration, the level of efficacy in control trials has been shown to decline to between 65 and 75 percent. Field trials employing a fourth or booster dose have not been reported.

C. Cambination Schedules Employing Inoctivated ond Live Attenuated Virus Voccines

If live attenuated vaccine is administered one to three months after one or two doses of inactivated vaccine, clinical reactions caused by the live vaccine are sharply reduced; resultant antibody titers are boosted over those produced by the inactivated vaccine alone and appear to be equivalent to those observed following the administration of live vaccine. About 10 percent demonstrate fevers over 103°F (rectal); rash, cough and coryza are rarely observed. Serological conversion occurs in 95 percent given this combination; antibody has been shown to persist for at least 14 months in 90 percent of this group.

Under natural challenge, this combination has demonstrated an efficacy of over 97 percent during a period of 14 months following administration. Although the protective effect of this vaccine combination probably persists beyond this time, substantiating data are not yet available.

Infants given inactivated vaccine in three monthly doses beginning as early as one month of age followed by live vaccine at 12 months of age also demonstrate sharply reduced clinical reactions following the live vaccine. About 5 percent demonstrate fever over 103°F (rectal); rash, cough and coryza are rarely observed. Serological conversion following the live vaccine occurs in over 95 percent. The duration of immunity, as measured by natural challenge or persistence of antibodies, has not yet been assessed in the infant group.

D. Recommendatians far Vaccine Use

1) Age

Virtually all children will, nt some time, have clinically evident measles. Marked by severe constitutional symptoms nnd a seven to fourteen day course, the disease is of additional concern beenuse of secondary complications such as bronchopneumonia and encephalitis. The vast majority of cases of measles occur among those under 15 years of age, particularly those aged 2 to 6 years; only occasionally do cases occur among adults.

Vaccine use then is indicated primarily for children. The live virus vaccine should be administered only to those **at least twelve months of age** since residual and maternal antibody may interfere with a response among those younger. The inactivated vaccine may be given at any age. Vaccination of adults is rarely indicated since all but a very small percentage, by history, have experienced the disease. Limited data indicate that in the adult, reactions to the vaccine approximate those seen in children.

2) High Risk Groups

Immunization against measles is recommended particularly for those especially prone to develop serious complications should they acquire natural measles infection. Specifically, these include children in institutions and those with cystic fibrosis, tuberculosis, heart disease, asthma and other chronic pulmonary diseases.

3) Prevention of Notural Measles Follawing Exposure

Limited studies reported to date indicate that there is no protective effect conferred by either vaccine when given **after** exposure to the natural disease. However, live attenuated vaccine administered only a few days **previous** to exposure appears to confer substantial protection.

4) Community Progroms

Rarely would there appear to be a need in the United States for mass community immunization programs. Immunization should be carried out as indicated by private practitioners and through established public health programs. Particular attention must be given to programs directed at children in lower socioeconomic areas, since attendance of this group at the usual well child conferences beyond 6 months of age is particularly poor.

E. Dasoge Schedules

Four different dosage schedules can be considered for use at the present time in the United States. (See table p. 67)

F. Contraindicatians ta Use of the Vaccines

Parenthetically, it should be noted that neither the live nor the inactivated vaccines contain penicillin.

1) Live Attenuoted Vaccine

*a) Pregnancy

*b) Leukemia, lymphomas and other generalized malignancies

*c) Therapy which depresses resistance such as steroids, irradiation, alkylating agents and antimetabolites.

*d) Severe febrile illness

*Although there are no reports of unusual complications in any of these conditions excepting leukemia, it is conceivable on theoretical grounds that potentiation of the attenuated disease might occur or, in the case of pregnancy, that damage of the fetus might result. Accordingly, if immunization is indicated, the inactivated vaccine should be used.

e) Recent Gamma Globulin Administration

If more than .01 cc/lb. of gamma globulin has been administered within the preceding 6 weeks, immunization should be deferred since the administered globulin may block the vaccine take.

f) Marked Egg Hypersensitivity

Since the virus is grown in chick embryo tissue culture, the vaccine probably should not be administered to extremely allergic children as indicated by their inability to eat eggs or egg products.

2) Inactivated Vaccine

Either monkey kidney or chick embryo tissue culture may be employed for inactivated vaccine production. (This will vary according to the manufacturer.) If chick embryo tissue culture material has been used precautions (as above) should be taken for possible marked egg sensitivity.

No other contraindications are known.

G. Continued Surveillance

Although several million children in the United States have received the vaccines without serious complications, continuing careful surveillance for significant adverse reactions is of the utmost importance. It is important that any serious reactions be carefully evaluated and reported in detail to local and State health officials. The Communicable Disease Center will maintain a close surveillance of all such cases.

ADDENDUM

Further Attenuated Live Measles Virus Vaccine

A further attenuated variant of the original Edmonston strain vaccine has been developed by Dr. Anton Schwarz and licensed in February, 1965. This strain was derived by multiple additional passages of the Edmonston strain in chick embryo tissue culture at lowered incubation temperatures.

As with the Edmonston strain attenuated measles vaccine, this further attenuated variant produces in the recipient a mild or inapparent, non-communicable infection which induces active immunity in almost all susceptible children to whom it is administered. In initial comparative studies, the frequency of febrile and exanthematous symptoms accompanying this infection have been shown to approximate or perhaps to be slightly less frequent than those observed in individuals who have received the Edmonston strain vaccine with Measles Immune Globulin. Thus, approximately 5 to 15 percent of individuals experience fever of 103°F. (rectal) or greater beginning about the sixth or seventh day and lasting one to five days; approximately 5 to 15 percent exhibit an exanthem which is less extensive and prolonged in duration than that observed in natural measles. No serious complications have been observed.

The level of hemagglutination-inhibition antibody titers induced by this vaccine appear to be comparable to those achieved following administration of the Edmonston strain vaccine. Persistence of this antibody for at least two years has been demonstrated. Observations pertaining to the duration of immunity under circumstances of natural challenge have not been reported.

Indications and contraindications for use of this vaccine are essentially the same as those applicable to the Edmonston strain vaccine.

III. STATUS OF GAMMA GLOBULIN PROPHYLAXIS FOR PREGNANT WOMEN EXPOSED TO RUBELLA

Although gamma globulin in adequate dosage has been shown in several studies to suppress the clinical manifestations of rubella, evidence that it will or will not prevent congenital malformations among children of exposed mothers is lacking. Recently reported experimental studies suggest that gamma globulin may prevent the clinical manifestations of the disease with limited or no effect on the occurrence of infection and viremia. A few instances have been reported in which congenital malformations of the type associated with rubella infections were observed in infants born of asymptomatic mothers to whom gamma globulin was administered.

However, neither the experimental studies nor the isolated individual case observations serve directly to answer the question as to whether gamma globulin may exhibit a relative efficacy in protection against congenital malformations in the infant. Extensive studies dealing specifically with this question are in progress in the United Kingdom. Definitive results may be anticipated within the next year. Until such time as this information becomes available, it is not possible to formulate concrete recommendations regarding the relative desirability of gamma globulin administration to pregnant women exposed to rubella infections.

DOSAGE SCHEDULES FOR MEASLES VACCINES

Schedule	Type of Vaccine	Age	Doses* and Administration	Comment
1	Live, Attenuated Vaccine	12 months and older	1	Although the live, attenuated vaccine may be administered safely with or without the simultaneous administration of Measles Immune Globulin, most physicians will wish to use the two combined because of the lessened frequency of clinical reactions.
2	Live, Attenuated Vaccine plus Measles Immune Globulin	12 months and older	1 plus Measles Immune Globulin (.01 cc per pound at different site with different syringe)	The live attenuated vaccines should be administered only to those 12 months of age or older since residual maternal antibody may interfere with a satisfactory response among younger children.
3	Live, "Further Attenuated Vaccine"	12 months and older	1	Clinical reactions following the "Further Attenuated Vaccine" are relatively infrequent; Measles Immune Globulin is not necessary with this Vaccine.
4	Inactivated Vaccine	Any Age	3** (monthly intervals) plus a booster dose after one year	In view of the rapid fall-off in antibody and evidence of decreasing immunity following a primary immunization series, use of this vaccine is not preferred except for special groups in which live attenuated vaccine is contraindicated. The degree and duration of protection which might be afforded to those given a booster has not yet been determined.
5	Inactivated Vaccine followed by Live, Attenuated Vaccine	12 months and older	1 dose inactivated vaccine followed in 1 to 3 months by 1 dose live attenuated vaccine	The preceding administration of inactivated vaccine serves to reduce the frequency and severity of clinical reactions following live attenuated vaccine administration.
		Under 12 months	3 doses inactivated vaccine at monthly intervals followed by 1 dose live attenuated vaccine at 12 months of age or older.	The live attenuated vaccine should be administered only to those 12 months of age or older since residual maternal antibody may interfere with a satisfactory response among younger children.

* Manufacturers directions regarding volume of dose should be followed.
** In view of rapidly declining antibody levels and protection, at least one booster dose about a year later is necessary. Data are not yet available to indicate when or with what frequency additional booster doses might be required.

IV. SIMULTANEOUS ADMINISTRATION OF SMALLPOX AND YELLOW FEVER VACCINES

Documented information pertaining to the frequency of possible complications when the two are simultaneously administered is so limited as to preclude judgement regarding the safety of this procedure. When the two vaccines are administered as a mixture either by scarification (Meers, P.D., Trans. of Royal Soc. of Trop. Med. and Hyg. 54:493-501, 1960) or by jet injection (Meyer, H.M., et al., Bull. World Health Organization 30:783-794, 1964) there appears to be a decreased frequency in seroconversions for yellow fever; the titer of induced vaccinial antibody also appears to be diminished. Additional studies, however, would be desirable. Simultaneous administration, however, of the two vaccines at separate sites apparently results in serological responses equivalent to those observed when the vaccines are administered singly (Meers, P.D.).

The Committee concluded that since adequate data are not available concerning the safety of simultaneous administration of these two agents and since both agents have an encephalitogenic potential, it would seem prudent, when practicable, to separate the administration of these two agents by an interval of at least 14 days.

Table 3. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
FEBRUARY 20, 1965 AND FEBRUARY 15, 1964 (7TH WEEK)

Area	Aseptic Meningitis		Encephalitis		Poliomyelitis						Diphtheria	
			Primary	Post-Inf.	Total Cases			Paralytic				
						Cumulative			Cumulative			Cum.
	1965	1964	1965	1965	1965	1965	1964	1965	1965	1964	1965	1965
UNITED STATES...	21	19	25	11	-	2	9	-	2	5	4	22
NEW ENGLAND.....	1	-	7	-	-	-	-	-	-	-	-	1
Maine.....	-	-	1	-	-	-	-	-	-	-	-	-
New Hampshire.....	1	-	-	-	-	-	-	-	-	-	-	-
Vermont.....	-	-	-	-	-	-	-	-	-	-	-	-
Massachusetts.....	-	-	5	-	-	-	-	-	-	-	-	1
Rhode Island.....	-	-	-	-	-	-	-	-	-	-	-	-
Connecticut.....	-	-	1	-	-	-	-	-	-	-	-	-
MIDDLE ATLANTIC.....	4	3	4	3	-	-	2	-	-	2	-	2
New York City.....	-	-	1	-	-	-	-	-	-	-	-	1
New York, Up-State.	1	2	1	2	-	-	1	-	-	1	-	-
New Jersey.....	-	1	-	-	-	-	1	-	-	1	-	-
Pennsylvania.....	3	-	2	1	-	-	-	-	-	-	-	1
EAST NORTH CENTRAL...	1	1	5	2	-	-	-	-	-	-	1	2
Ohio.....	-	-	1	-	-	-	-	-	-	-	1	1
Indiana.....	-	-	-	-	-	-	-	-	-	-	-	1
Illinois.....	-	1	3	2	-	-	-	-	-	-	-	-
Michigan.....	1	-	1	-	-	-	-	-	-	-	-	-
Wisconsin.....	-	-	-	-	-	-	-	-	-	-	-	-
WEST NORTH CENTRAL...	2	3	-	2	-	-	-	-	-	-	1	4
Minnesota.....	1	2	-	-	-	-	-	-	-	-	1	1
Iowa.....	-	-	-	2	-	-	-	-	-	-	-	-
Missouri.....	-	1	-	-	-	-	-	-	-	-	-	1
North Dakota.....	-	-	-	-	-	-	-	-	-	-	-	-
South Dakota.....	-	-	-	-	-	-	-	-	-	-	-	1
Nebraska.....	-	-	-	-	-	-	-	-	-	-	-	1
Kansas.....	1	-	-	-	-	-	-	-	-	-	-	-
SOUTH ATLANTIC.....	1	-	4	3	-	-	5	-	-	2	2	6
Delaware.....	-	-	-	-	-	-	-	-	-	-	-	-
Maryland.....	-	-	-	2	-	-	-	-	-	-	-	-
Dist. of Columbia..	-	-	-	-	-	-	-	-	-	-	2	2
Virginia.....	-	-	1	1	-	-	-	-	-	-	-	-
West Virginia.....	-	-	-	-	-	-	-	-	-	-	-	-
North Carolina.....	-	-	-	-	-	-	3	-	-	-	-	1
South Carolina.....	-	-	-	-	-	-	-	-	-	-	-	-
Georgia.....	-	-	-	-	-	-	-	-	-	-	-	1
Florida.....	1	-	3	-	-	-	2	-	-	2	-	2
EAST SOUTH CENTRAL...	1	2	1	-	-	-	1	-	-	-	-	3
Kentucky.....	1	-	1	-	-	-	-	-	-	-	-	-
Tennessee.....	-	-	-	-	-	-	1	-	-	-	-	-
Alabama.....	-	-	-	-	-	-	-	-	-	-	-	2
Mississippi.....	-	2	-	-	-	-	-	-	-	-	-	1
WEST SOUTH CENTRAL...	5	-	1	-	-	2	-	-	2	-	-	4
Arkansas.....	-	-	-	-	-	1	-	-	1	-	-	-
Louisiana.....	-	-	-	-	-	-	-	-	-	-	-	1
Oklahoma.....	-	-	-	-	-	-	-	-	-	-	-	-
Texas.....	5	-	1	-	-	1	-	-	1	-	-	3
MOUNTAIN.....	-	3	1	-	-	-	-	-	-	-	-	-
Montana.....	-	1	-	-	-	-	-	-	-	-	-	-
Idaho.....	-	-	-	-	-	-	-	-	-	-	-	-
Wyoming.....	-	-	-	-	-	-	-	-	-	-	-	-
Colorado.....	-	1	-	-	-	-	-	-	-	-	-	-
New Mexico.....	-	-	-	-	-	-	-	-	-	-	-	-
Arizona.....	-	1	-	-	-	-	-	-	-	-	-	-
Utah.....	-	-	1	-	-	-	-	-	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	6	7	2	1	-	-	1	-	-	1	-	-
Washington.....	-	-	-	-	-	-	-	-	-	-	-	-
Oregon.....	-	-	-	-	-	-	-	-	-	-	-	-
California.....	5	6	2	1	-	-	1	-	-	1	-	-
Alaska.....	-	-	-	-	-	-	-	-	-	-	-	-
Hawaii.....	1	1	-	-	-	-	-	-	-	-	-	-
Puerto Rico	---	-	---	---	---	-	-	---	-	-	---	1

Table 3. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

FEBRUARY 20, 1965 AND FEBRUARY 15, 1964 (7TH WEEK) - CONTINUED

Area	Brucellosis	Infectious Hepatitis including Serum Hepatitis					Meningococcal Infections			Tetanus	
		Total incl. unk.	Under 20 years	20 years and over	Cumulative Totals			Cumulative			Cum.
	1965	1965	1965	1965	1965	1964	1965	1965	1964	1965	1965
UNITED STATES...	4	796	430	324	5,580	6,439	110	499	377	4	25
NEW ENGLAND.....	-	43	23	17	337	828	7	28	10	-	1
Maine.....	-	7	3	3	74	308	-	4	-	-	-
New Hampshire.....	-	4	3	1	29	83	-	1	-	-	1
Vermont.....	-	-	-	-	30	91	-	-	-	-	-
Massachusetts.....	-	16	8	7	106	146	2	12	3	-	-
Rhode Island.....	-	5	3	2	40	29	2	4	2	-	-
Connecticut.....	-	11	6	4	58	171	3	7	5	-	-
MIDDLE ATLANTIC.....	-	142	75	67	1,037	1,392	20	73	46	-	1
New York City.....	-	30	6	24	181	186	1	12	7	-	-
New York, Up-State.	-	62	40	22	488	673	7	17	17	-	1
New Jersey.....	-	18	5	13	124	199	6	29	9	-	-
Pennsylvania.....	-	32	24	8	244	334	6	15	13	-	-
EAST NORTH CENTRAL...	-	181	87	84	1,111	909	12	65	55	-	-
Ohio.....	-	35	19	15	343	261	2	18	19	-	-
Indiana.....	-	32	21	8	89	70	-	9	7	-	-
Illinois.....	-	40	22	15	211	114	1	14	11	-	-
Michigan.....	-	68	24	44	415	430	7	15	15	-	-
Wisconsin.....	-	6	1	2	53	34	2	9	3	-	-
WEST NORTH CENTRAL...	3	40	22	15	368	430	1	19	17	-	2
Minnesota.....	-	5	1	3	33	25	1	4	3	-	1
Iowa.....	2	7	3	4	166	65	-	-	-	-	-
Missouri.....	-	9	6	1	65	95	-	9	8	-	1
North Dakota.....	-	-	-	-	2	24	-	3	2	-	-
South Dakota.....	1	-	-	-	6	48	-	1	-	-	-
Nebraska.....	-	-	-	-	7	11	-	-	1	-	-
Kansas.....	-	19	12	7	89	162	-	2	3	-	-
SOUTH ATLANTIC.....	1	67	45	20	546	624	19	104	85	1	9
Delaware.....	-	8	3	5	20	7	-	2	-	-	-
Maryland.....	-	6	4	2	106	100	-	5	11	-	1
Dist. of Columbia..	-	2	1	1	6	13	-	3	-	-	-
Virginia.....	1	8	4	3	86	92	2	15	7	-	1
West Virginia.....	-	18	16	1	124	114	2	8	5	-	-
North Carolina.....	-	10	6	4	65	139	4	17	10	-	1
South Carolina.....	-	-	-	-	20	20	4	12	13	-	-
Georgia.....	-	9	8	1	29	10	4	19	6	-	3
Florida.....	-	6	3	3	90	129	3	23	33	1	3
EAST SOUTH CENTRAL...	-	75	54	18	390	442	3	27	29	2	5
Kentucky.....	-	18	10	5	126	215	1	8	5	-	-
Tennessee.....	-	41	33	8	162	142	2	12	13	1	2
Alabama.....	-	12	9	3	65	57	-	7	6	1	2
Mississippi.....	-	4	2	2	37	28	-	-	5	-	1
WEST SOUTH CENTRAL...	-	84	49	33	566	436	15	62	50	1	4
Arkansas.....	-	10	5	5	85	63	-	4	4	-	1
Louisiana.....	-	16	7	9	90	79	6	23	20	-	-
Oklahoma.....	-	2	1	1	26	26	2	8	3	-	-
Texas.....	-	56	36	18	365	268	7	27	23	1	3
MOUNTAIN.....	-	42	20	8	306	417	11	24	22	-	1
Montana.....	-	3	3	-	31	42	-	-	-	-	-
Idaho.....	-	4	-	-	48	40	-	-	1	-	-
Wyoming.....	-	3	1	2	23	15	1	1	1	-	-
Colorado.....	-	9	7	2	40	96	4	7	6	-	1
New Mexico.....	-	8	4	1	52	80	1	7	8	-	-
Arizona.....	-	5	-	-	72	90	2	4	2	-	-
Utah.....	-	9	5	3	37	47	2	3	1	-	-
Nevada.....	-	1	-	-	3	7	1	2	3	-	-
PACIFIC.....	-	122	55	62	919	961	22	97	63	-	2
Washington.....	-	13	6	6	80	117	4	4	4	-	-
Oregon.....	-	5	3	2	78	104	-	6	3	-	-
California.....	-	99	45	50	683	689	18	86	51	-	2
Alaska.....	-	3	1	2	71	34	-	1	2	-	-
Hawaii.....	-	2	-	2	7	17	-	-	3	-	-
Puerto Rico	---	---	---	---	77	80	---	2	4	---	4

Table 3. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
FEBRUARY 20, 1965 AND FEBRUARY 15, 1964 (7TH WEEK) - CONTINUED

Area	Measles			Strept. Sore Th. & Scarlet Fev.	Tularemia		Typhoid Fever		Rabies in Animals	
		Cumulative				Cum.		Cum.		Cum.
	1965	1965	1964	1965	1965	1965	1965	1965	1965	1965
UNITED STATES...	9,235	51,859	47,713	11,972	1	36	6	45	85	642
NEW ENGLAND.....	1,585	12,461	2,834	892	-	-	-	-	1	9
Maine.....	130	1,352	385	68	-	-	-	-	-	-
New Hampshire.....	2	186	15	8	-	-	-	-	-	-
Vermont.....	8	113	719	15	-	-	-	-	1	8
Massachusetts.....	903	7,333	492	134	-	-	-	-	-	-
Rhode Island.....	226	1,503	195	45	-	-	-	-	-	-
Connecticut.....	316	1,974	1,028	622	-	-	-	-	-	1
MIDDLE ATLANTIC.....	352	1,829	8,898	737	-	-	2	4	2	19
New York City.....	40	214	3,397	40	-	-	2	3	-	-
New York, Up-State.	121	636	1,754	452	-	-	-	1	2	17
New Jersey.....	32	270	1,886	147	-	-	-	-	-	-
Pennsylvania.....	159	709	1,861	98	-	-	-	-	-	2
EAST NORTH CENTRAL...	1,618	9,182	9,849	1,450	-	-	2	7	6	34
Ohio.....	433	1,811	1,653	263	-	-	-	2	-	-
Indiana.....	59	387	2,089	192	-	-	2	2	1	6
Illinois.....	49	279	2,625	188	-	-	-	1	1	7
Michigan.....	827	4,983	2,633	501	-	-	-	1	-	8
Wisconsin.....	250	1,722	849	306	-	-	-	1	4	13
WEST NORTH CENTRAL...	449	3,830	1,202	468	1	3	-	2	19	124
Minnesota.....	38	93	21	27	-	-	-	-	3	33
Iowa.....	99	1,981	489	124	-	-	-	-	8	43
Missouri.....	86	433	130	6	1	2	-	2	2	16
North Dakota.....	220	1,203	553	130	-	-	-	-	-	7
South Dakota.....	2	25	3	44	-	-	-	-	1	7
Nebraska.....	4	95	6	-	-	-	-	-	-	4
Kansas.....	NN	NN	NN	137	-	1	-	-	5	14
SOUTH ATLANTIC.....	1,322	7,316	4,761	1,640	-	12	1	13	8	104
Delaware.....	23	102	52	14	-	-	-	1	-	-
Maryland.....	35	151	739	276	-	-	-	5	-	2
Dist. of Columbia..	1	10	86	8	-	-	-	-	-	-
Virginia.....	231	1,060	1,092	260	-	3	-	1	6	87
West Virginia.....	839	5,216	1,449	649	-	-	-	1	-	2
North Carolina.....	9	111	175	21	-	2	-	4	-	-
South Carolina.....	55	110	755	44	-	2	1	1	-	-
Georgia.....	24	185	97	46	-	5	-	-	2	7
Florida.....	105	371	316	322	-	-	-	-	-	6
EAST SOUTH CENTRAL...	482	2,591	6,600	1,721	-	9	-	3	29	226
Kentucky.....	15	171	3,519	90	-	1	-	-	2	9
Tennessee.....	383	1,771	2,639	1,413	-	7	-	2	26	211
Alabama.....	44	451	176	67	-	1	-	1	1	6
Mississippi.....	40	198	266	151	-	-	-	-	-	-
WEST SOUTH CENTRAL...	1,804	5,961	4,219	987	-	8	-	9	14	88
Arkansas.....	430	572	152	4	-	4	-	3	3	19
Louisiana.....	3	11	13	2	-	1	-	2	2	24
Oklahoma.....	3	41	36	85	-	3	-	1	2	16
Texas.....	1,368	5,337	4,018	896	-	-	-	3	7	29
MOUNTAIN.....	546	4,115	2,109	1,832	-	4	1	5	1	15
Montana.....	75	1,327	462	8	-	-	-	-	-	2
Idaho.....	104	644	307	164	-	-	-	-	-	-
Wyoming.....	7	102	16	78	-	-	-	1	-	-
Colorado.....	123	612	231	928	-	-	-	-	-	-
New Mexico.....	-	86	54	233	-	-	1	2	-	-
Arizona.....	19	114	764	99	-	-	-	2	1	13
Utah.....	199	1,205	187	321	-	4	-	-	-	-
Nevada.....	19	25	88	1	-	-	-	-	-	-
PACIFIC.....	1,077	4,574	7,241	2,245	-	-	-	2	5	23
Washington.....	505	1,447	2,747	613	-	-	-	-	-	-
Oregon.....	167	818	847	31	-	-	-	-	1	1
California.....	375	1,842	3,001	1,570	-	-	-	1	4	22
Alaska.....	11	49	600	5	-	-	-	-	-	-
Hawaii.....	19	418	46	26	-	-	-	1	-	-
Puerto Rico	---	186	550	---	---	-	---	-	---	1

Week No. 7

Table 4. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED FEBRUARY 20, 1965

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over		
NEW ENGLAND:	991	649	75	30
Boston, Mass.	350	220	21	1
Bridgeport, Conn.	56	44	5	2
Cambridge, Mass.	30	22	-	-
Fall River, Mass.	35	30	2	-
Hartford, Conn.	61	38	-	7
Lowell, Mass.	31	19	3	4
Lynn, Mass.	32	20	1	1
New Bedford, Mass.	39	25	5	2
New Haven, Conn.	81	57	4	-
Providence, R. I.	68	41	3	3
Somerville, Mass.	18	12	3	-
Springfield, Mass.	60	43	13	2
Waterbury, Conn.	56	33	1	7
Worcester, Mass.	74	45	14	1
MIDDLE ATLANTIC:	3,876	2,248	230	171
Albany, N. Y.	61	38	1	-
Allentown, Pa.	47	29	5	-
Buffalo, N. Y.	147	73	4	5
Camden, N. J.	58	30	3	2
Elizabeth, N. J.	35	22	3	2
Erie, Pa.	41	22	4	2
Jersey City, N. J.	90	54	12	6
Newark, N. J.	112	55	12	5
New York City, N. Y.	1,972	1,147	100	94
Paterson, N. J.	54	33	2	1
Philadelphia, Pa.	501	275	25	18
Pittsburgh, Pa.	272	165	16	15
Reading, Pa.	57	37	12	2
Rochester, N. Y.	122	68	12	8
Schenectady, N. Y.	26	18	4	1
Scranton, Pa.	58	38	3	-
Syracuse, N. Y.	71	42	5	5
Trenton, N. J.	73	43	2	2
Utica, N. Y.	45	33	3	2
Yonkers, N. Y.	34	26	2	1
EAST NORTH CENTRAL:	3,035	1,728	152	185
Akron, Ohio	71	41	2	4
Canton, Ohio	44	29	9	1
Chicago, Ill.	951	508	45	67
Cincinnati, Ohio	172	109	4	11
Cleveland, Ohio	219	122	5	7
Columbus, Ohio	151	86	3	9
Dayton, Ohio	76	52	3	5
Detroit, Mich.	398	230	22	24
Evansville, Ind.	53	29	3	7
Flint, Mich.	50	29	7	2
Fort Wayne, Ind.	56	37	6	2
Gary, Ind.	51	25	4	6
Grand Rapids, Mich.	61	39	9	2
Indianapolis, Ind.	161	84	7	10
Madison, Wis.	41	19	-	3
Milwaukee, Wis.	111	66	6	8
Peoria, Ill.	62	36	-	4
Rockford, Ill.	32	25	3	2
South Bend, Ind.	50	33	9	1
Toledo, Ohio	151	87	4	5
Youngstown, Ohio	74	42	1	5
WEST NORTH CENTRAL:	1,019	652	43	54
Des Moines, Iowa	60	42	2	2
Duluth, Minn.	39	27	1	-
Kansas City, Kans.	48	26	4	5
Kansas City, Mo.	149	99	3	6
Lincoln, Nebr.	33	22	3	2
Minneapolis, Minn.	131	95	5	10
Omaha, Nebr.	102	60	3	4
St. Louis, Mo.	304	181	10	15
St. Paul, Minn.	93	62	-	6
Wichita, Kans.	60	38	12	4
SOUTH ATLANTIC:	1,231	615	74	118
Atlanta, Ga.	151	69	10	15
Baltimore, Md.	265	133	8	28
Charlotte, N. C.	45	16	5	7
Jacksonville, Fla.	70	35	4	9
Miami, Fla.	98	52	-	4
Norfolk, Va.	60	30	7	10
Richmond, Va.	67	31	3	4
Savannah, Ga.	45	18	5	4
St. Petersburg, Fla.	76	55	5	3
Tampa, Fla.	93	56	12	3
Washington, D. C.	202	85	9	26
Wilmington, Del.	59	35	6	5
EAST SOUTH CENTRAL:	622	331	37	43
Birmingham, Ala.	78	43	-	2
Chattanooga, Tenn.	32	17	8	1
Knoxville, Tenn.	36	21	-	2
Louisville, Ky.	136	73	14	10
Memphis, Tenn.	143	74	4	11
Mobile, Ala.	60	19	4	12
Montgomery, Ala.	37	19	3	2
Nashville, Tenn.	100	65	4	3
WEST SOUTH CENTRAL:	1,198	637	61	80
Austin, Tex.	37	22	5	1
Baton Rouge, La.	49	28	2	-
Corpus Christi, Tex.	27	15	5	1
Dallas, Tex.	152	80	5	9
El Paso, Tex.	42	21	3	4
Fort Worth, Tex.	76	47	3	5
Houston, Tex.	209	106	9	20
Little Rock, Ark.	70	39	10	5
New Orleans, La.	199	88	9	16
Oklahoma City, Okla.	90	47	-	4
San Antonio, Tex.	127	76	3	7
Shreveport, La.	58	33	5	6
Tulsa, Okla.	62	35	2	2
MOUNTAIN:	451	261	26	28
Albuquerque, N. Mex.	27	10	3	3
Colorado Springs, Colo.	29	22	5	-
Denver, Colo.	146	85	12	10
Ogden, Utah	20	13	-	1
Phoenix, Ariz.	103	59	4	8
Pueblo, Colo.	12	6	-	-
Salt Lake City, Utah	62	34	1	4
Tucson, Ariz.	52	32	1	2
PACIFIC:	1,869	1,107	74	119
Berkeley, Calif.	21	14	-	-
Fresno, Calif.	52	28	2	1
Glendale, Calif.	38	29	1	2
Honolulu, Hawaii	65	32	3	6
Long Beach, Calif.	81	47	-	3
Los Angeles, Calif.	622	350	34	52
Oakland, Calif.	114	68	5	19
Pasadena, Calif.	39	31	-	-
Portland, Oreg.	114	64	1	6
Sacramento, Calif.	91	53	1	7
San Diego, Calif.	123	73	8	4
San Francisco, Calif.	218	129	2	12
San Jose, Calif.	48	30	5	1
Seattle, Wash.	142	85	5	6
Spokane, Wash.	50	36	5	-
Tacoma, Wash.	51	38	2	-
Total	14,292	8,228	772	828

*Estimate - based on average percent of divisional total.

Cumulative Totals
including reported corrections for previous weeks

All Causes, All Ages	95,889
All Causes, Age 65 and over	54,786
Pneumonia and Influenza, All Ages	4,686
All Causes, Under 1 Year of Age	5,649

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INTERNATIONAL NOTES – INFLUENZA

(Continued from page 62)

Reference Center in Moscow. There are influenza-like outbreaks in most of the northern cities, in Moscow and in Central Russia. The outbreaks have probably not yet reached their peak. Kiev and the Ukraine are also affected but there is little evidence of disease in the Central Asian regions of the U.S.S.R. In Siberia an outbreak has been reported from Novosibirsk.

The epidemic in Leningrad is now known to have been very large – almost as large as in 1957 – and the epidemic in Moscow has also been extensive. Virus A_2 was isolated in both cities and children were first affected but later there were a considerable number of cases in adults.

On 12 February 1965, information was obtained that no outbreaks of influenza-like illness had so far been reported in Switzerland, as well as in the whole of the Federal Republic of Germany, including West-Berlin.

Finland

(Information dated 10 February 1965).–Outbreaks of influenza-like illness have been reported during the past week from several military units in southern and eastern parts of Finland. The incidence has been of the order of 10 to 20%. The course of the disease was relatively mild. Serological evidence of infection with virus A_2 has been obtained.

There is no significant increase in incidence of influenza-like illness among the civilian population, including children.

Poland

3,522 sporadic cases of influenza-like disease have been reported in Poland during the first week of February, including 1,242 in Warsaw. A focus of about 100 cases among schoolchildren has also been reported from Warsaw province on 10 February.

(Reported in the Weekly Epidemiological Record of the World Health Organization, February 12 and 19, 1965.)

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CHIEF, COMMUNICABLE DISEASE CENTER — JAMES L. GODDARD, M.D.
CHIEF, EPIDEMIOLOGY BRANCH — A. D. LANGMUIR, M.D.
CHIEF, STATISTICS SECTION — R. E. SERFLING, PH.D.
ASST. CHIEF, STATISTICS SECTION — IDA L. SHERMAN, M.S.
CHIEF, SURVEILLANCE SECTION — D. A. HENDERSON, M.D.
ASSISTANT EDITOR, MMWR — PAUL D. STOLLEY, M.D.

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THE EDITOR
MORBIDITY AND MORTALITY WEEKLY REPORT
COMMUNICABLE DISEASE CENTER
ATLANTA, GEORGIA 30333

NOTE: THESE PROVISIONAL DATA ARE BASED ON WEEKLY TELEGRAMS TO THE CDC BY THE INDIVIDUAL STATE HEALTH DEPARTMENTS. THE REPORTING WEEK CONCLUDES ON SATURDAY; COMPILED DATA ON A NATIONAL BASIS ARE RELEASED ON THE SUCCEEDING FRIDAY.

SYMBOLS:---DATA NOT AVAILABLE
– QUANTITY ZERO

THE CONSTRUCTION OF THE MORTALITY CURVES IS DESCRIBED IN VOL. 14, NO. 1.

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Communicable Disease Center
Atlanta, Georgia 30333

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